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AUTHOR Dores, Paul A.
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ABSTRACT

The relationship between sensorimotor performance and communicative ability in 18 autistic children (40 to 108 months old) was studied. The children were administered the Means-End and Operational Causality scales from the Ordinal Scales of Psychological Development. In addition, the Ss were assessed on four measures of verbal and nonverbal competence: (1) a teacher rating of the child's typical method of communication, (2) two classroom observations of spontaneous and prompted nonverbal/verbal communicative behavior, (3) the Peabody Picture Vocabulary Test, and (4) six standardized tasks designed to elicit communicative responses. No prevalent pattern of pre-Stage V sensorimotor performance was found. While communicative capabilities varied substantially across the children, sensorimotor performance was consistently at or above Stage V in all cases, and predominantly at or above Stage VI. The relationship between sensorimotor performance and communicative ability that has been found in several studies of both normal and retarded children was not replicated in this sample of autistic children. While these results do not disprove the theory that Stage V sensorimotor skills are necessary for communicative development, they do suggest that achieving that level of skill does not predict advanced communicative ability. It is suggested that future research assess the interface of developmental and behavioral psychology, and that greater effort be made to translate known/theorized developmental processes into intervention procedures for atypical populations. (SEW)

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COMPARING SENSORIMOTOR PERFORMANCE WITH MULTIPLE MEASURES OF COMMUNICATIVE ABILITY IN AUTISTIC CHILDREN

Paul A. Dores

Efficacy Research Insititute, Framingham, Massachusetts

Paper presented at the Seventh Annual Boston University Conference on Language Development, Boston, Massachusetts, October 8-10, 1982. This research was conducted while the author was a student in the doctoral program in Psychology at the State University of New York at Stony Brook. Requests for further information should be addressed to Paul Dores, Clinical Director, Efficacy Research Institute, 569 Salem End Road, Framingham, MA 01701.

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Paul A. Dores

Efficacy Research Institute, Framingham, Massachusetts

Autistic children have often been characterized as non-communicative. Those who fail to develop a spoken language do not naturally substitute a communicative alternative. Those who do speak tend not to use their language in a social communicative manner. Developmental theorists have suggested that both nonverbal and verbal noncommunicativeness in autistic children may reflect a lack of "cognitive readiness". In other words, autistic children may not attempt to transmit nonverbal or verbal messages because they have failed to attain those specific levels of sensorimotor competance believed to be necessary for the development of intentional, goal-directed communication. Many researchers, including Sugarman, Bates and Snyder, have suggested that those prerequisite levels of sensorimotor competance might be Stage V understanding of means-end relationships and operational causality. These specific sensorimotor cognitive achievements appear to be most predictive of subsequent communicative development. The demonstration of such a relationship between sensorimotor achievements and communicative language use in autistic children would provide a strong argument for both cognitive assessment and cognitive pretraining prior to language intervention. The present study was designed to assess the relationship between sensorimotor performance and several measures of

communicative ability in a group of autistic children.

Eighteen children (CA = 40 - 108 months, mean CA = 75.6 months; MA = 20 - 64 months, mean MA = 42.7 months) were selected by two independent raters to participate in a series of assessments. The children satisfied the combined criteria for the diagnosis of autism recommended by the National Society for Autistic Children (1978) and Rutter (1978). Each child was administered the Means-End and Operational Causality scales from the Uzgiris and Hunt (1975) Ordinal Scales of Psychological Development. In addition, each was assessed on four measures of verbal and nonverbal communicative competance:

1) a teacher rating of the child's typical method of communication,

2) two extended classroom observations of spontaneous and prompted, nonverbal and verbal communicative behavior,

3) the Peabody Picture Vocabulary Test, and

4) six standardized tasks designed to elicit communicative responses. These tasks and their scoring system were taken from Sugarman (1973) and Snyder (1977) so as to allow for comparison of the results of the present study with previous studies involving a variety of child populations.

The results do not support speculation that autistic children characteristically perform at pre-Stage V levels of sensorimotor development. On the Means- End scale, 17 of 18 children performed at the Stage VI level. On the Operational Causality scale, 16 of 18 children performed at the Stage VI level. All others performed at the Stage V level. No child performed below Stage V on either of the sensorimotor assessments. Communicative performance, however, varied substantially across the children on all measures. Children ranged from those who were both nonver-

bal and noncommunicative to those who were verbal and spontaneously communicative. Performances on the various communicative measures were highly intercorrelated and all communicative measures correlated highly with mental age. In previous studies with both normal and retarded children, preintentional levels of communication, as measured by the standardized set of elicitation tasks, were found to correlate with pre-Stage V sensorimotor performance. In the present study, however, of the 6 children whose average levels of communicative responding could be characterized as preintentional, all but one performed at Stage VI on both of the sensorimotor measures. Performance on the sensorimotor measures did not differentiate those whose average communicative response was nonverbal and preintentional from those who consistently used spontaneous verbal communication. The children who performed at Stage V on either sensorimotor scale tended to perform most poorly on all measures of communication. However, on each of those communicative measures, one or more of the children who had demonstrated Stage VI levels of sensorimotor skill performed as poorly or more poorly.

In summary, no prevalent pattern of pre-Stage V sensorimotor performance was found in a group of autistic children. While communicative capabilities on a variety of measures varied substantially across the children, sensorimotor performance was consistently high - at or above Stage V in all cases, and predominantly at or above Stage VI. The relationship between sensorimotor performance and communicative ability that had been found in several studies of both normal and retarded children was

not replicated in this sample of autistic children. While these results do not disconfirm the theory that Stage V sensorimotor skills are necessary for communicative development, they do suggest that achieving that level of skill does not predict advanced communicative ability. That is, they may be necessary prerequisite skills, but they do not appear to be sufficient for language acquisition within this population. These results are discussed with respect to recent recommendations which call for the inclusion of sensorimotor pretraining in language training programs. It is suggested that a fruitful area for future research lies in the interface of developmental and behavioral psychology and that an intensified effort be made to continue the translation of known or suspected developmental processes into intervention procedures for atypical populations.